ROSES

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MAKING PHOTOGRAPHIC POST CARDS FOR PROFIT.

BY HOWARD M. GILLET.

(Illustrations by the Author.)

AT the outset it may be said that no one set of instructions can exactly fit the circumstances of every individual case. The writer has simply set down what has seemed to him to be the handiest and most desirable way of turning the photo post card into a source of profit as well as pleasure.

We will begin first of all with the outfit. Your instrument should preferably be a 5 x 7, folding plate camera. Plates are handier than films to mask and print from, and the 5 x 7 printing frame is about the right size to take in the post card and still leave a margin to enable the card to be shifted slightly so as to take in the most desirable part of the scene.The camera should be fitted with a good rapid rectilinear lens, rising front, and swing bed. To do good work you should use a tripod, and compose your picture on the ground glass. Before setting up the instrument preparatory to taking your first post card view, take the ground glass out of the camera and lay a post card on the center of the dull side of the glass, (make sure the card is the same size as the sensitized cards you are to use) and with a lead pencil draw the outline of the card on the glass, so that when your view is focused on the screen you will be able to see if you are getting the subject of the right size to go on a post card. Make allowance for a small space for correspondence purposes if you wish, although this is not of so much importance now that the Post Office Department has decreed that the left hand half of the address side may be used for that purpose.

Unless the exposure must be a quick one, use a medium small stop and focus sharply. You will find that a sharp, clear card will sell more readily to the public at large than one of the "ultra artistic" variety made solely for pictorial purposes. The rising front and swing bed will enable you to take high buildings without distortion. The fact that your lens is rectilinear will also help in rendering correctly the straight lines of architectural subjects.

In regard to developing, I would but repeat the advice so often offered: "Use the formula given by the manufacturer of the dry plate you are using." Two or three different formulae are generally given by them, all of which are especially fitted to the plate, and you should be able to choose one that will satisfy you. Develop thoroughly in order to get a

At the Brink of the Falls.

bright, snappy negative, which in turn will produce a brilliant card. Be careful, however, not to carry development so far as to chalk up the highlights.

While many photographers simply lay the card on the center of the negative and print, the appearance of the card is much improved by printing with a mask, which may be made of a piece of the black paper which comes wrapped around your sensitized cards. If you are going to use this particular mask for several different negatives, it would be better to cut it smaller than the size of the negative and then you will be enabled to shift it so as to take in the best portion of each negative. Lay a card on the center of the square of black paper and draw the outline of the post card just the same as you did on the ground glass. Now, with a sharp penknife or shoe knife, and a straight edge, cut out an opening of the size and shape you wish. Bear in mind that if you intend to have your space for writing on the right side of the finished card, you must cut the opening on the left side of the mask, and vice versa, because you are working from the back of the mask (as it faces the light in the printing frame). Be sure to get the edges of the opening parallel with the outline of the card. Next, with an ordinary writing pen and some white or gold ink retrace the outline of the card on the mask. Either of these inks show up better in the dim light of the printing room than does the pencil mark.

Hold the negative up to the light and adjust the mask so that the opening takes in the proper portion of the view. Then if you will carefully note the position of the mask on the negative, you will be able to adjust it with the finger tips as the printing frame lies on the table without holding it up to the light every time. If your negative is to be used for post card printing exclusively, the mask may be attached to the negative in the proper position by means of a little adhesive on the corners. When ready to print, place a sensitized card in register with the white or gold outline and expose. If your negatives are 4 x 5, put a piece of clear, plain glass in a 5 x 7 printing

Winter.

frame, place the 4 x 5 negative on it, and fill up the space with another small piece of plain glass the same thickness as the 4 x 5 negative, so that the back of the printing frame will press upon an even surface. See that the opening in your mask does not go beyond the edge of the negative.

As a developer for gaslight cards, you may of course use any formula you may have been using for developing paper. Personally I like the formula given below:

Water	20 oz.
Metol	10 grs.
Hydochinon	40 grs.
Sulphite of Soda, dry	320 grs.
Carbonate of Soda, dry	240 grs.

Bromide of Potassium, solution 1 to 10, 16 to 25 drops.

Regulate the quantity of bromide according to the tone you wish on your cards. An acid fixing bath should be used.

After washing, your cards may be dried face down on cheese cloth if you prefer, to prevent curling; but try the following method and see if you don't have better success in getting your cards perfectly flat:

Purchase some photographic blotting paper, which comes in sheets varying in size from 9 x 12 to 18 x 24. After the cards are thoroughly washed, drain off the surplus water, place one of the sheets of blotting paper on a flat surface and cover it with cards. Lay another sheet of blotting paper on top and by applying a gentle pressure blot off all the moisture you can. Repeat this process, laying the limp cards out to dry, *face up*, and let them be until they are *nearly* dry. No matter if they do curl some—as they will. When the moisture is nearly out, but before they are so dry as to be very stiff, straighten them out with the hands, and place them between the leaves of some books which are of small account. Have ten or twelve leaves between each card (or page of cards, if the book is large enough to have more than one on a page), place a weight on the books and allow them to remain over night. If the cards were dry enough when you put them in so that the leaves of the books did not gather sufficient moisture to crinkle them, you will find that the cards will come out in the morning nice and flat. Should you have some

Pleasant Dreams.

of the regular blotting paper books bound with leaves of blotting paper and oiled paper alternately, so much the better. In either case the books should be set on end with the leaves spread to remove dampness after the cards are taken out.

If after the cards are first blotted on coming from the washing tray, they are laid face down to dry, I find that the edges are more likely to dry crooked than they are with the method I have named, and on the other hand, after the surplus water is blotted off, if they are placed directly in the blotter books to dry, the leaves will still absorb enough moisture to crinkle both leaves and cards.

There are several methods of titling post cards. When only a comparatively small amount of cards are made at a time, a very good way is to write, or rather print, the title with black ink on the white margin of the card under the view using a style of lettering known as "box marking," similar to the way in which shipping boxes are addressed. With a little practice this can be done very neatly. Use a rather finely pointed pen, make the letter small, and be careful to preserve good alignment. When a large amount of cards is made from one negative, however, this method becomes rather tiresome, and it is desirable to have the negative itself lettered in some way. Most photographic houses now carry in stock a small and inexpensive outfit for titling negatives which consists of a piece of glass upon which are mounted several hundred small metal letters, and a vial of transparent cement. These letters are detached from the glass as wanted and cemented to the film side of the negative in a reversed position. Being perfectly opaque, they print out white on the card. Their only drawback seems to be that they cannot well be used except on the thin or shadow portions of the negative.

If the negative is lettered in this way, it is best to varnish it first, making it waterproof. This protects the film from being injured in the lettering process, and also enables the letters to be washed off should occasion arise. Another advantage, in this case, of a waterproof negative is that sometimes a little too much cement gets on, cutting off some of the light in printing, and the cement being soluble, the finger tip may be dipped in water and gently brushed across the letters, thereby dissolving the surplus cement. If any of the letters become loosened and out of place in this process, they may be slipped back in their proper position by means of a toothpick. Unvarnished film would become softened as well as the cement and cause trouble.

It will not be at all difficult to find subjects for your post cards. If you live in a small town or village, prominent buildings, such as churches, libraries, the post office, the railroad station, etc., always sell well on cards. Take a view or two of the main street, choosing, of course, the most attractive part. The more life and activity you catch in views of this kind the better. Have for one of your cards a view of the town taken from some elevation, such as the roof of a building or a nearby hillside. It will be one of your best sellers if you get a good one. Perhaps there is a nearby lake or stream which will give you several pretty cards, and don't overlook any places of historical interest, such as the birthplace of a famous man, etc.

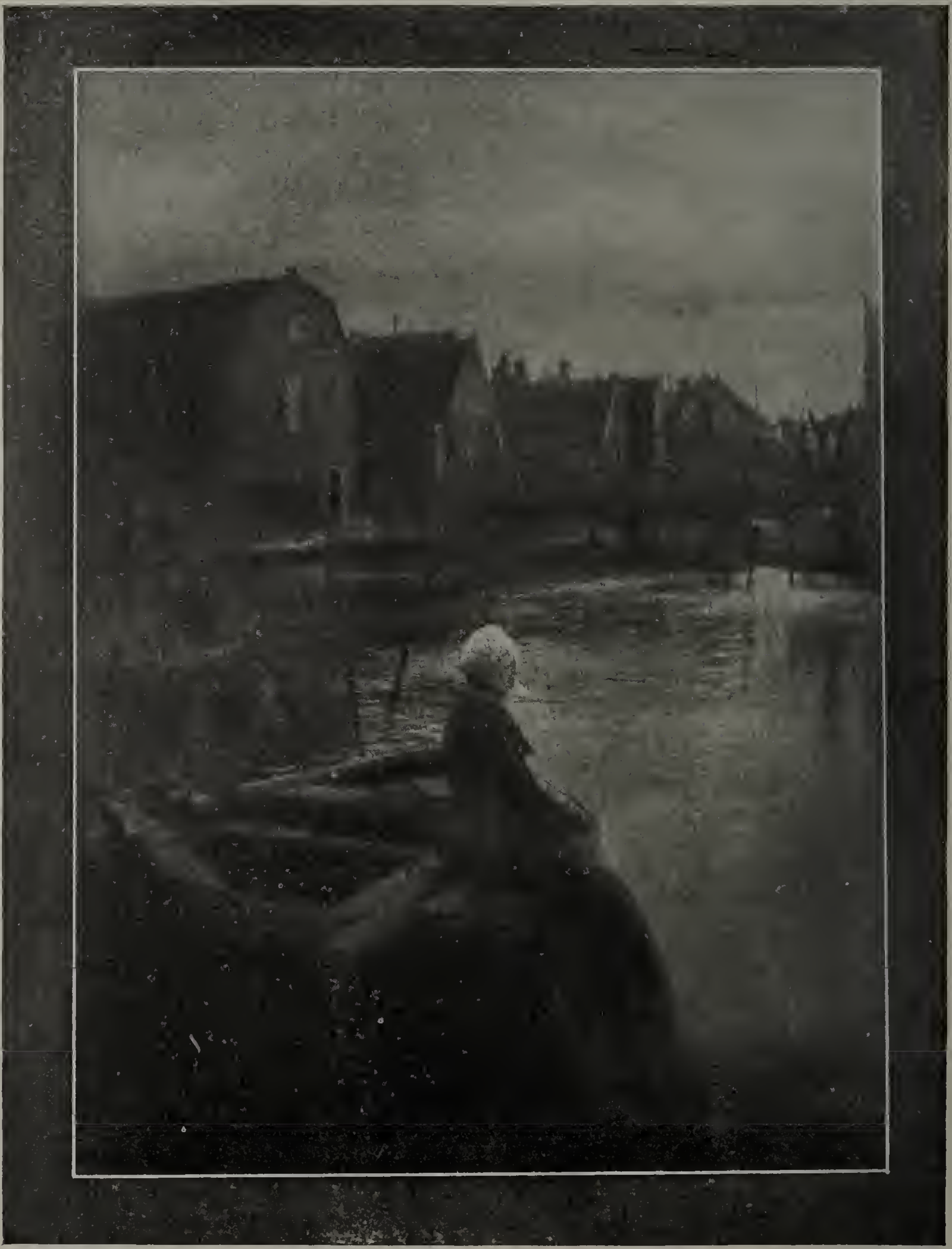
If possible, get the local storekeepers to handle your cards either by direct purchase at wholesale rates or on a commission basis. It is very important, when having cards on sale at the stores, to see that they are well displayed, preferably in a regular post card stand, and have a few sample cards in the windows. In case the storekeeper has no display stand, and the sales will warrant the outlay, it might even be wise to furnish a stand yourself if you cannot prevail upon him to obtain one of his own.

Opportunities will often occur to make souvenir cards to order, and in this case, unless a quantity is ordered, you will be justified in charging more than you do for your regular stock cards. When filling orders for mounted photographs, if the subject is suitable and is not too large on the negative, make a post card also as a free sample, and you will often get an additional order for cards of the same subject.

Photos taken at picnics, outings, excursions, etc., make delightful souvenirs on post cards. When a big fire occurs in your town, get it recorded on post cards just as soon as you can. Don't delay. If you are fortunate enough to have on hand a photo of the building taken before the fire, cut some masks and by using a little ingenuity, print both views on the same card.

Keep your eyes and ears open for business, and when opportunity presents—hustle.

Upper and Lower Berths.

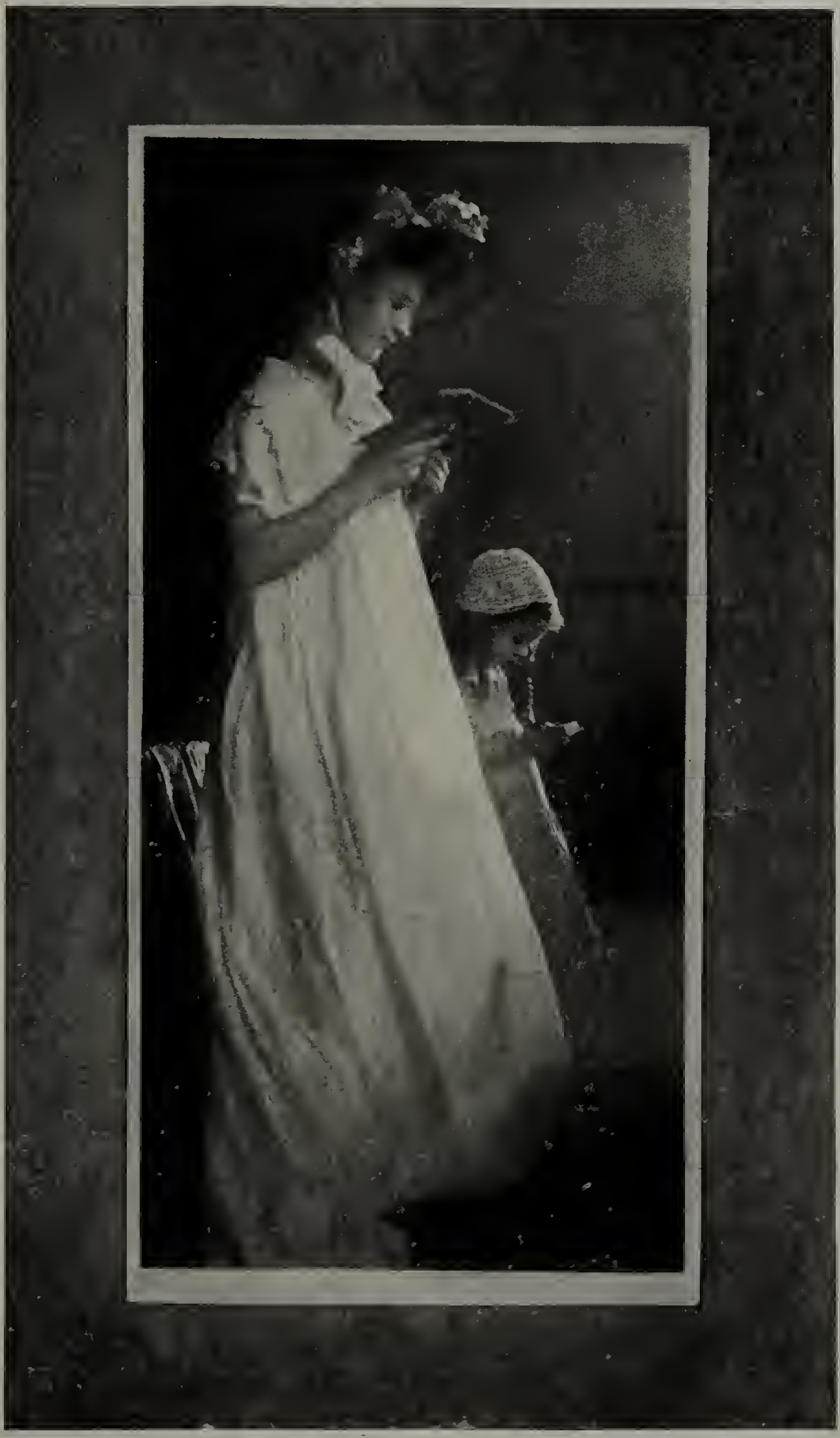


IN A DUTCH FISHING VILLAGE *By James Gale*

(First Prize October Competition.)

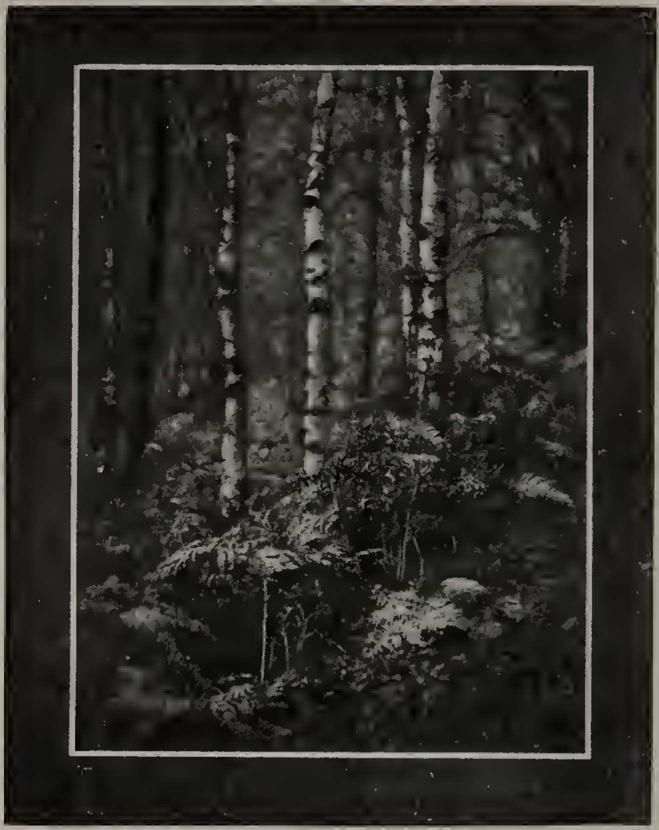
THE MONTHLY COMPETITION.

It is a good deal easier to tell other people how to make good pictures than it is to make them yourself. It is partially due to this that when you *do* produce a true picture, you are proud of it, and find it well worth all the trouble and effort it has cost you. It is true that an occasional "accidental" picture will reward our earlier amateur efforts, but as our knowledge of picture making grows



THE PSALTER *By Mrs. Charles S. Hayden*

(Second Prize October Competition.)



AUTUMN'S RUINOUS BOWERS

By Wm. Wheelock

(Honorable Mention October Competition.)

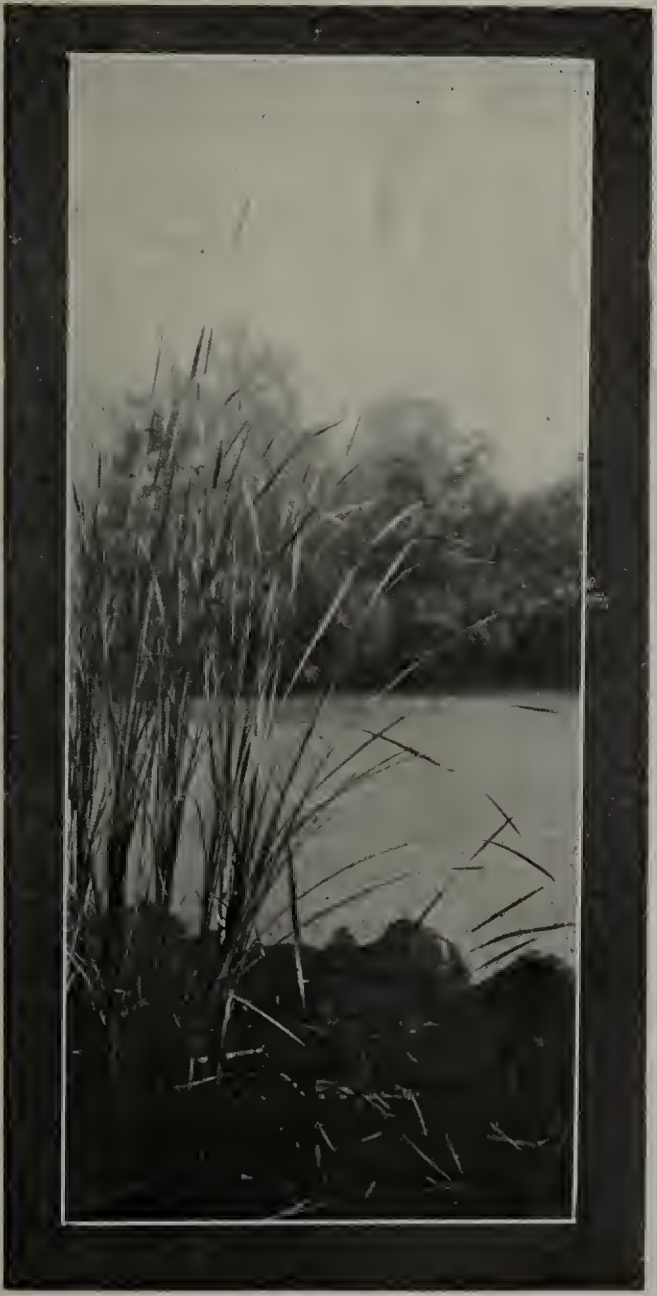
we begin to realize its difficulties. Some with inherent artistic instinct readily absorb the principles of composition, but are unskilled in technique. Others fail in a measure to comprehend the teachings of the masters, yet possess almost uncanny skill in manipulating and modifying negative and print. When you find the combination of talent and the mastery of technique, then you have the artist, and his ability to produce pictures is limited only by his industry.

So let us take our failures and disappointments—philosophically-- and then go after it harder than ever—an easy game is not worth the candle, any way. When the picture you submitted is returned without mention, study it hard. Sometimes it may be that your entry was just a trifle behind the winners, if you want to know just why, mark your prints "may be criticised" when you send them, and you will be told in the plainest and simplest terms possible just wherein your picture was faulty—If you really want to succeed, you won't mind the criticism, and a great many people beside yourself will benefit by it. Remember this when you send in your next entries. The entries in this competition were all of an unusually high order of merit, and the judges experienced some difficulty in arriving at the final decisions.

The first award was, however, the unanimous choice of the judges on the first ballot. "In a Dutch Fishing Village," by James Gale, has much to commend it from every standpoint, and should be carefully studied. It fully demonstrates what may be done in low tones and diffusion without resorting to the ultra. It is a simple story told in a simple way, yet every line and tone is in harmony—study it for conflictions, and see how hard they are to discover. Note the perfect balance and support of the figure in the picture and the placing of light and shade. Data—Diffused light, 5 P. M., in April, two seconds exposure, stop 16.

The Second Award goes to a subject equally pleasing and dainty—though entirely different in subject and execution. "The Psalter," by Mrs. Chas. S. Hayden, is a charming little study. At first glance, it would have seemed more effective if the figure of the child had been placed in the foreground, but that it was made secondary, was probably due to the fact that in so placing it, the fine lines of drapery enveloping the adult figure would have been lost. It would be an interesting experiment to pose similar figures and note the result. Data: Taken in church interior, fair light, one second exposure, Steinheil lens, wide open. Seed 26 x plate, W. & C. Platinum paper.

The First Honorable Mention is fully in keeping with the high class of this month's prize winning entries, and also merits close study. "Autumn's Ruinous

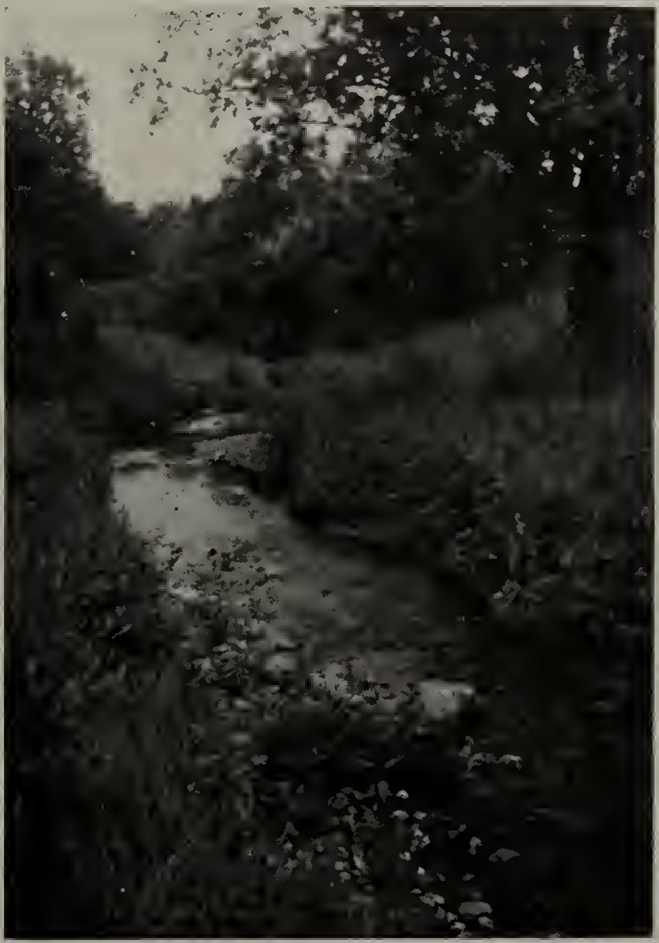


THE SWAMP *By John L. Hopper*
(Honorable Mention October Competition)

Bowers," by Wm. Wheelock is unusual in delicacy and poetic feeling, and evidences a thoroughly artistic temperament. It needs no special comment to call attention to its beauties. Data: Made November 10th, 3.30 P. M., good diffused light, fast plate, stop F. 23, five seconds exposure, 13¾ inch single lens, 4¾ x 6½ plate, pyro soda developer.

The Second Honorable Mention goes to an exceedingly simple subject, yet sufficient in its originality to warrant the award. "The Swamp," by John L. Hopper is a striking example of how little it needs to make an exceedingly decorative effect, provided good judgment be exercised in selection. It tells its own story. Data: Made in August, 7.30 A. M., bright light, R. R. lens, stop U. S. 4, 1/5 second exposure, standard Iso Plate, Premo camera, printed on Royal Velox.

The final Honorable Mention goes to "The Brook," by A. W. Grayley. This is a picturing of an interesting bit of landscape well handled in every way, not sufficiently out of the ordinary, but what it may be classed as a picture that selected the maker rather than one composed and arranged by the maker. However, if five per cent. of the amateur pictures made were the equal of this, the editor's lot would be much easier. Data: Made in August, 2.30 P. M., cloudy light, ½ second exposure, stop F. 16, Standard plate, Turner-Reich lens, printed on Angelo Sepia platinum.



THE BROOK *By A. W. Grayley*
(Honorable Mention October Competition.)

A "MULTIPLE-GUM" PRINTING DEVICE.

BY CHARLES MACNAMARA.

ONE of the chief objections to the "multiple-gum" process is the difficulty of securing accurate registration between the successive printings. Several methods have been devised to overcome this, but there are drawbacks to most of them. The usually recommended device of making marks on the edge of the paper which can be fitted to corresponding marks on the negative is often quite useless, as the paper, which expands of course on being wetted, does not always contract again to its original dimensions, and it is impossible to bring the marks together. An English writer advises the use of a specially prepared cardboard, the expansion and contraction of which is negligible, but this limits the worker to one kind of surface, and besides, as far as I know, the board is not obtainable in this country. In addition to their high price, the latter objection holds also against the English and German printing frames specially designed for multiple printing.

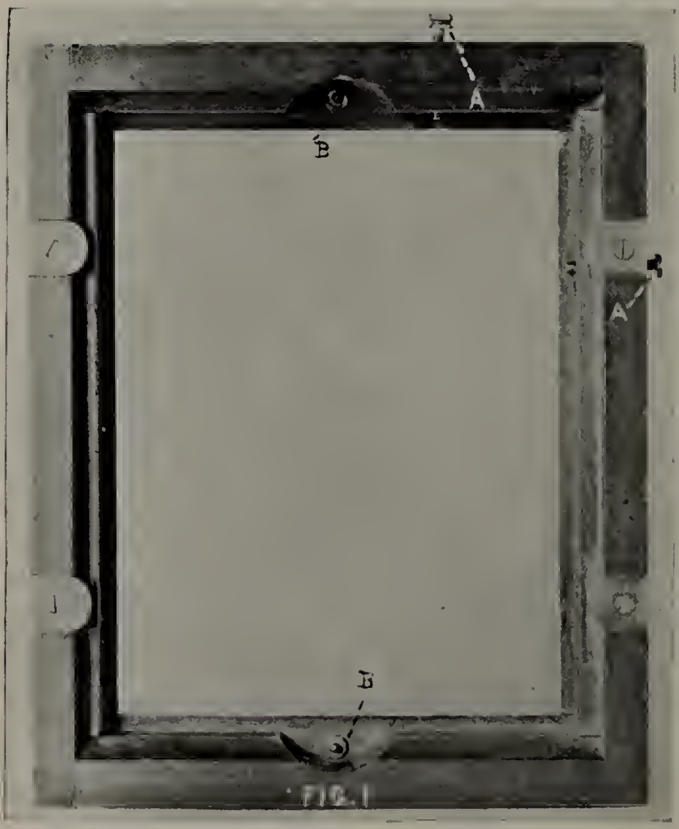


FIG. I

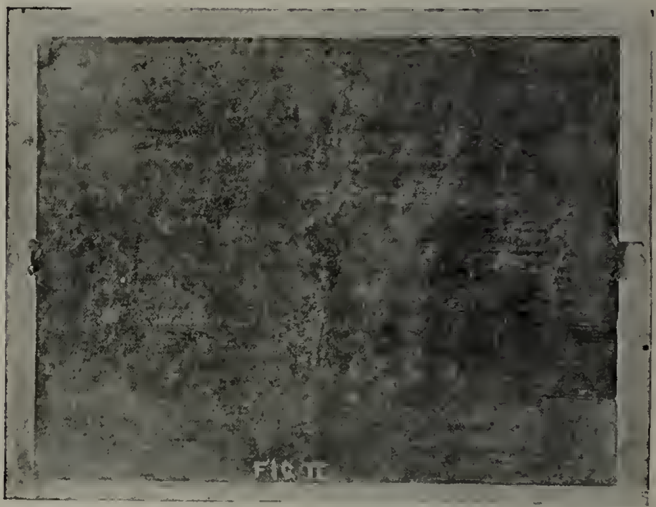


FIG. II

The device described below is free from all these drawbacks. It ensures perfect registration between any number of printings; it can be easily and cheaply adapted to any good ordinary printing-frame; and moderately strong paper of any surface can be used with it.

Briefly, it consists of a printing-frame (Fig. 1) with two set screws arranged to hold the negative firmly in place; and a brass plate, (Fig. 2) on which the paper is stretched, and which is fitted to the frame so that it can be removed and replaced as desired, and will always return automatically to the same position in the frame. And now to explain the details.

Fig. 1 shows an ordinary hardwood printing-frame, 6½ x 8½, with the back removed. Brass set screws, A and A1, penetrate the frame immediately above the rebate. In the semicircular finger-spaces at either end of the frame is a round stud, B and B1, about ⅛ inch diameter, and projecting about ⅜ inch.

Fig. 2 represents a brass plate 6¼x8¼ x 1/16 inch thick. The plate is onequarter inch smaller each way than the frame to allow for the necessary projection of the set screws. Plates any thinner than one-sixteenth inch were found to buckle under the contraction of the paper. In the centre of either end is a square tab, about one half inch wide, and three eighths inch long, in which is bored a hole that will just fit snugly over the studs, B and B1, in Fig. 1.

The use of these devices is obvious. The negative is placed in the frame, and the set screws are turned up so as to press it firmly against the opposite side and end. It is well to interpose small square pieces of rubber (I cut small pieces off a pencil eraser) about as thick as the glass between the latter and the ends of the screws—this to avoid the danger of cracking the negative. The brass plate on which is stretched the coated paper as will be explained later, is put in position, the studs fitting into the holes in the tabs, and keeping the plate always in exactly the same position. It is clear that either plate or negative may be removed and replaced at will and when adjusted as described above, will always occupy the same relative position.

To stretch the paper on the plate the procedure is as follows: Any strong paper suitable for ordinary gum-printing can be used, but thin or soft papers must be avoided, as they are certain to split in the subsequent manipulations. The paper, cut to a size two or three inches larger all around than the plate, is soaked in cold water for half an hour, being kept entirely submerged to ensure uniform expansion. If soaked much longer than half-an-hour, the fibre of the paper becomes softened, and is apt to split in drying.After due soaking, the paper is placed, sized side down, on a paper is placed, sized side down, on a moisture removed with another blotter. The brass plate is laid in the middle, and the corners of the paper are cut off diagonally close up to the corners of the plate, and cuts are also made to allow the tabs on the plate to emerge. The paper projecting beyond the plate is now brushed over with the insoluble paste given below, folded back over the plate and rubbed down smoothly, and the whole thing is put between blotters under a moderate pressure to dry.

INSOLUBLE PASTE SUGGESTED BY MR. NELSON CHERRILL.

Arrowroot or starch.........	5 grms.
Water	65 ccm.

Boil, and add 10 ccm. of a 2½% solution of chrome alum.

When dry, the paper will be found to be stretched tightly and smoothly on the plate. Prolonged soaking may cause it to relax somewhat, but on drying again it will always return to its original tension.

The paper is coated in the usual way, and as there is very little tendency to wrinkle or buckle, this operation is much easier than with the ordinary loose sheets.

When the paper is drying after development, the plate must not be left standing on edge, as then the moisture will collect at the bottom, keeping the paper there soft, while the top, drying more quickly contracts strongly and very often splitting of the paper ensues.

FROM THE VERY BEGINNING.

Part III.

BY C. H. CLAUDY.

WE have learned something of our camera, and something of exposure, and there remains yet the process of development to be unravelled before we know even the elements of negative making. The making of a finished print, or picture proper, can well be left for the future, to the instructions which come with the various papers or other articles in this and other magazines. Printing mediums are many and various; development of the negative is a standard process, albeit conducted in several differing ways and with different chemicals. But the chemicals used are unimportant factors—any good developer will give good results if properly used.

What is the process of development? When the sensitive film on the support in the camera—celluloid in the case of roll or flat film and glass when plates are used—is subjected to the action of light, the chemical constitution of the sensitive salts is changed. This change is invisible to the eye, but so affects the chemicals that they become sensitive in a new direction, to the assaults of another chemical, called a developer or reducer. This agent acts upon the sensitive salts and reduces them, so that they are changed in form. What is left, after the action of the developer, is a dark deposit of silver, and this deposit is in proportion to the amount of light action when the exposure was made, and this, in turn, is proportional to the original subject and the light which emanated from its various parts. Thus the dark deposits form a picture but a picture reversed—dark where the original was light, and light or transparent, where the original was dark. For the amount of reduction, being governed by the light action, (under time of reducer action, of course) is greatest where there was most light and so the high lights of the subject are the darkest portions of the resulting plate—the shadows are the least dark. It is for this reason that the developed plate is called the "negative" in distinction to the positive or finished picture.

To develop an exposed plate it is necessary to immerse it in a solution of the developing agent. As most of these agents oxidize very rapidly when exposed to the air in the form of a solution, another chemical, called a preservative, must be added, to take up the oxygen which would otherwise affect the developing reagent. This is usually sulphite of soda. Still another chemical is usually added, called an accelerator, the function of which is to increase the rapidity of the action of the developer, which it does by opening up the pores of the gelatin and letting the developer get at and act upon the light-affected silver salts.

Obviously, the sensitive surface with the invisible change made in it by light is still a sensitive surface, so the process of development must be carried on in the dark. As this is more or less trouble and as the sensitive surface is rather insensitive to red light, a dim red radiance is usually used to illuminate the work. I am speaking now of the old way of developing, which is sometimes called tentative development. The new way, or tank development, does not require any red light in the case of roll films, or any dark room either, and for plates only needs these two long enough to get the plates in a tank and under cover. The rest of the operation can be conducted in daylight. When you add to these advantages the facts that tank development gives better results than the old way, is easier, cheaper, quicker, and requires no knowledge whatever, or experience either—when it is thoroughly understood that you, a beginner, can get just as good results with a tank as I can, with eighteen years of photography behind me as a guide, there would seem to be no room for argument as to the advisability of using a tank. But new ideas, even good ones, have to fight their way against old and established notions. You have only to think of the telegraph, the steam car, or, in photography, the dry plate for examples. Many people, possibly most people, who have been doing photographic work more than five years, are believers in the older system, but as fast as the new one is demonstrated to them they drop the old idea and take up the new.

Now there is an exception to the advantages of tank development, and it is found in art work. When a man is an artist and uses photography as a tool to paint pictures with, he is beyond all rules of photographic procedure. But he must first know the rules in order to understand breaking them. Before he can produce a negative which is, photographically considered poor, but which will give him just the effect he wants, he must know how to get a good technical negative. The tank gives good negatives from the technical standpoint, the very best which can be made from the given exposure. As you are a beginner—you for whom this paper is written—you have nothing to do with this exception except to note it. When you are a good photographer and want to make artistic pictures you can discard the tank occasionally and mix your developer to strange weird formulae of your own and produce under or over developed negatives for "special effects" to your heart's content. But be it noted that more and more are the modifications which artists make in photography being done not upon the negative, but in and upon the print.

Your little film camera will yield you the best results of the kind you and I want—good, clear, readable photographs that look like their subjects and that represent day light scenes and not midnight or moonlight—if you develop its films in a tank. These tanks, made expressly for the development of roll film, are marvels of simplicity and compactness, are not expensive and are worth ten times their cost in their saving of time, trouble, expense of chemicals and in the films they save, which would, hand developed more than likely be a loss. I practice what I preach. I have tanks galore, and I persuade my friends to buy them. At a country home recently a friend showed me some commercially developed negatives. "What is the matter with these?" he asked me. It would have been easier to have told him what wasn't the matter—although "fogged to to death and 'way over-developed" would have half answered the question. I developed by hand, a roll of film for him, to show him the difference. "Now," I said, "as much better as mine are than yours, so much better would another roll be than mine, if done in a tank. I explained to him, even as I have to you, what a tank is and why it is good, and at my feet now, in my grip (I am writing this on board ship going to see this same friend) is his tank developer outfit, in which he is going to do his developing in future.

The idea of tank development is that a

standard solution at a standard temperature, will give uniform results in a standard time. I don't want to get too technical or use terms which are unfamiliar, any more than I can help. But the number of gradations in a negative —the steps between each tone,—are determined by the exposure—the steepness of these steps, or the degree and amount of contrast between light and dark, is determined by the time of development. This being so, it follows that the only control over results as regards their finished appearance is by altering the steepness of the scale of the picture—increasing or decreasing either the time of development, the temperature or the dilution, all of which are different ways of altering the time action of a certain quantity of reducer upon the film. This reduces development to an automatic process and that automatic process is tank development.

Now while the process is automatic that does not mean that it does not require some care. It is absolutely essential that the few requirements be exactly satisfied. It is necessary, much more so than in tentative development, to use pure chemicals, since the process is a quiet one and the chemicals in solution are not rocked over the face of the plate as in hand development. It is even more essential that the temperature be ascertained and the time of development proportioned to this temperature. The best temperature is sixty-five degrees F. for a pyro developer, and there is no developer, advertisements to the contrary notwithstanding, which is superior to pyro for tank use. The formula published by the makers of the tank for roll film is as follows:

Water 48 ounces.

Dissolve in this 30 grains pyro, 90 grains sulphite of soda, 60 grains carbonate of soda.

The sodas are two of the dessicated or anhydrous variety—in other words, not the crystallized form. Crystallized chemicals contain equal parts of water and the chemical, so that if only crystallized chemicals are at hand, double these weights should be used. The pyro (short for pyrogallic acid) comes in a very fine crystal form, looking more like a fine white fuzz than anything else. Both pyro and the sodas are cheapest when bought by the pound, and the sodas should never be bought in any other form than in original pound packages put up by chemists for photographic use. With all due respect for druggists, the quality of soda, particularly the sulphite, they sell often leaves much to be desired and many a photographic failure can be traced to the use of such chemicals. The makers of tanks usually put up packages of chemicals all weighed out and ready to mix by the addition of water, and as it is to their interest to have you get good results you can rely on their chemicals being pure and fresh.

After the film is developed, whether by tank or by hand, it must be "fixed" and washed. Fixing a plate means submitting it to the action of a chemical which will dissolve from the film those chemicals not used in producing the image. The chemical universally used is hyposulphite of soda, obtainable for from two and one half to five cents a pound, according to the quantity bought. To this is added a little sulphite of soda, some acid and some alum. Plain hypo in the proportion of one ounce to four of water is a fixing bath and will do the work all right in cold weather, but it must be mixed fresh for use, and in warm weather the film will get soft under its action. To prevent this, and to keep the solution clear and so it can be used over and over, the acid alum bath is used, for which the formula is given here.

Water	32 ozs.
Hyposulphite of soda	8 oz.
Anhydrous sulphite of soda	160 grs.

Dissolve entirely and add powdered alum ¼ ounce, citric acid ¼ ounce.

In this bath the film should be put as soon as it comes from the tank, after a thorough rinsing, and left until all the milky color which is the unreduced silver in the emulsion, has disappeared and then left for ten minutes longer. The additional ten minutes is in order that by-products of fixation may be dissolved out and to allow full time for the alum to act upon the gelatine of the emulsion and harden it sufficiently to stand the after washing. After fixation the film should be washed for an hour in running water or twelve changes of water of five minutes each, when it is to be carefully hung up to dry and the superfluous water wiped gently off. When dry, it is ready for printing.

This brings to a close these three elementary papers. It is the hope of both the editor and the writer that they have not seemed too elementary for the beginner and that some one, just starting, has had the way made more plain than it seemed from the instruction book, usually written with the idea that the beginner has passed his novitiate.

THE GIPSY FORTUNE TELLER *By Dr. R. W. Shufeldt*

THE OLD SCHOOL AND THE NEW.

BY GEO. H. SCHEER, M. D.

AMATEUR photography has been making such tremendous strides as a popular pastime during the last ten or fifteen years that there are to-day probably a thousand camera users to one fifteen years ago. This remarkable growth in popularity has been brought about mainly by two factors: the first of these is improvement in photographic apparatus, the second, and perhaps more important, is simplification of photographic processes.

A camera and complete outfit may be bought to-day at so low a price that often they are made to solve the problem of an inexpensive Christmas or birthday gift. The recipient of such a gift is often a young boy or girl, or, if an older person, one who previously to the receipt of the gift had not the slightest intention or inclination to enter a photographic career As a matter of course, most of those who thus unexpectedly become the possessors of cameras launch at once into practical photography. Of the technical side of photography their knowledge is nil yet they blithely saunter forth with their new camera and begin making snap-shots of everything and anything that offers itself: views, groups, buildings, animals, portraits, and the Lord only knows what not, are attempted at once. I have known such a novice to open his plateholder immediately after the exposure was made, fully expecting to see the finished picture there.

Of course, not all beginners are quite so unsophisticated as the one above referred to, but it is a fact beyond dispute that most beginners to-day come to the work without any knowledge of even the most fundamental photographic principles.

Nor is it at all likely that any considerable number of present-day amateurs will ever acquire more than the most superficial knowledge on matters photographic for the simple reason that the making of photograpns has come to be almost an automatic process.Anyone equipped with a dollar camera can, by means of his tank or developing-machine, produce at the first attempt negatives which are technically as good as those made by the most experienced worker with the old-style open-tray method: that is if his exposure has not been too far off, for time development with a dilute developing-solution will correct considerable error in exposure. Ten to one the amateur who uses a developing-machine does not even mix his own developer but merely dissolves a ready-prepared powder in a given quantity of water and his developer is done—he does not even know the different ingredients by name, let alone their chemical action and their purpose in the developing-solution. All he knows and cares to know is that his machine will do the work,—why should he bother his head with tedious study of the philosophy of the thing?

When it comes to printing,the ordinary amateur of to-day knows but one paper; on account of its ease of manipulation and because it may be worked at any time, almost anywhere, by anyone, the modern gaslight developing paper is the universal printing-medium of the snapshotter. Now the gaslight papers are capable of giving pretty fair results in the hands of an intelligent operator. They are made in a great variety of surfaces with either hard or soft emulsion so that there is a grade of paper suited to almost every kind of negative; the discriminating worker will carefully choose that grade best suited to bring out all the gradations in his negative but the ordinary amateur usually confines himself to a single grade, nine times out of ten, the so-called "regular carbon" which is a hard paper intended for use with thin negatives. As his negatives are very apt to be rather dense and contrasty than thin, the use of this grade only serves to emphasize their harshness. Thus we find that the great bulk of the work of our amateurs to-day is of the so-called soot and whitewash type, with skies as white as newly-fallen snow and shadows as black as printer's ink, and with the scale of gradations so steep that the half tones are practically destroyed.

What has been said above applies to that class of amateurs who possess enough interest in photography, or are prompted by motives of economy, to do their own work. Many thousands there are to whom even these much simplified operations of developing and printing are too much of a bother—their efforts are confined to pressing the button and letting someone else do the rest.

So much at present for the new school —let us turn our attention to the old school for comparison.

The hand cameras of to-day are marvels of compactness, lightness, and efficiency, but the hand camera in its present form is a very recent creation. The cameras in use only a few years ago were mostly of the view type; true hand cameras have been in existence for some length of time, but the types in use, let us say fifteen years ago, were clumsy affairs and much behind the view cameras in efficiency. Whichever type he used, the photographer of fifteen years ago was obliged to carry a heavy and more or less cumbersome camera which weighed pounds where the modern pocket camera scarcely weighs ounces. The lenses in general use at that time were not the high-speed wonders of the present day, nor were the plates as fast as those now in general use. Snap-shot work was practically out of the question with such an outfit and a massive tripod to support the heavy camera was an indispensable part of every photographer's equipment.

Development in those days was an art in itself—to become proficient in this art required not only much time and thorough application but a not inconsiderable knowledge of chemistry as well. Plates were usually developed singly or at most only a few at a time, as they required constant watching while in the developing bath. To develop a lot of plates, say a dozen or two at a sitting, required no little patience.

Printing was not confined to a single process; the worker was familiar with and practiced a half-dozen or more different processes. Ready-prepared papers were not so common then as they are now, consequently the amateur was obliged to make most of his printing paper himself. Plain salted paper was widely used; the old albumen process was still in vogue, though ready-sensitized gelatine papers were coming into quite general use. All these papers were printing-out papers, they had to be printed by daylight and afterwards submitted to a somewhat lengthy toning process —altogether they required considerable time and no mean degree of skill on the part of the operator. Then there were the carbon, platinum, and kallitype processes, all of which were used to a considerable extent.

Compared with what it was fifteen years ago photography has become a mere amusement for children, a simple, almost purely mechanical operation, so that anyone intelligent enough to read and follow simple directions can make a photograph at the first attempt. No doubt, this simplification of photography is responsible for the vast army of camera users of to-day, but it is also responsible for a falling off in the amount of good work—in fact the falling off in quality is almost proportional to the increase in quantity. The reason for this is not far to seek; photography has been made too simple. We value most highly those things which require the greatest amount of effort to acquire, whatever comes too easy is apt to be little appreciated. That is why the modern snap-shotter is usually content with record photographs. To him photography is not the means to a result which is art,—all he cares for is a record of things, or places, or events that happen to interest him at the moment. Is it surprising that the vast majority of snap-shotters tire of photography as soon as the newness has worn off? So we find that after a month or two, or perhaps a week or two, the majority of cameras are put to rest in the garret or on some closet shelf to be resurrected only on such rare occasions as a vacation trip.

How different it was years ago, before photography had become the snap it is to-day. It required more than a mere passing interest to even pack the heavy outfit on a day's tramp and no one, without genuine interest, would take the time and trouble to master the art of developing or to make himself thoroughly familiar with the printing processes then in common use. One needed real and lasting enthusiasm to become proficient in even the technical side of the work in those days. Because of the difficulties it presented photography attracted a class of workers very different indeed from the run of present-day amateurs. And naturally, by the time they had mastered photography these pupils of the old school had an infinitely more thorough knowledge of the subject than their brethern of the modern school and this knowledge they turned to account in their work. It is therefore only natural that the quality of the work in those days was very much higher than that of the ordinary amateurs of to-day. While this is true of the technical part of the work it applies with much greater force to composition. Look over a list of men and women prominent in pictorial work and you will find that, almost without exception, they began the study of their art in the days of the old school. For what could be more natural than that, after spending years in the acquiring of photographic information, these men should strive to produce work of real value.

Photography with them was a serious proposition—they realized that, in order to have any intrinsic value, a print must be more than merely a photographic record. To produce, not simply a photograph, but a picture was their object—to make a picture requires a knowledge of pictorial principles, so these workers of the old school studied composition as well as photographic technique. The value of the old school training is strikingly demonstrated by the fact that, almost without exception, the pictorialists of the present day are men who learned photography in the old days; their pictures make up the bulk of our salon exhibits and they land most of the prizes in the competitions.

The reason for the much lower average standard of amateur work of the present time is by no means to be ascribed to any inadequacy in modern apparatus or methods, for their introduction has made the getting of results both easier and more certain, probably nine out of ten pictorialists at the present time use the tank or time system of development because by its use they get absolutely uniform results. The result is the thing aimed at, and as photography still is and will always be more or less mechanical, the intelligent worker quickly adopts any improvement in apparatus or technique which insures better results.

Neither does the fault lie on the side of technique for technically the work of the snap-shotter may be quite as good as that of the pictorialist—the difference between the work of the ordinary amateur and the pictorialist is rather one of expressiveness; the one cares only for a record of something that interests him his prints are mere photographs; the other aims to produce something that will be, not just a photograph, but a picture. The work of the former is the result of thoughtless button-pressing, that of the latter represents the culmination of an artist's well-studied efforts and bears the stamp of his own individuality.

A picture, whether made by brush or by camera, has an intrinsic value of its own which is recognized and appreciated by lovers of the beautiful wherever seen. Thus, while even the maker of snap-shots himself soon tires of his prints, the work of the pictorialist lives after him even as does the work of the painter. The pictures of H. P. Robinson, who is often referred to as "the father of pictorial photography," live to-day though made many years ago, the works of the great pictorialists of to-day will be admired long after their makers are dead and gone.

No higher tribute could have been paid to these modern artists of the camera than the hanging of their work in some of the greatest art galleries of the world, not as photographs but as works of art. Photography is to them merely a tool, just as his brushes and pigments are the tools of the artist who paints, or chisel, mallet, and compass are the tools of the sculptor. In the hands of an artisan these same tools produce but homely every-day results, but the artist uses them to reproduce, in concrete form, his ideals; they are a part of himself, the children of his brain. It is the soul of the creator expressed in it that raises the creation from the commonplace to the realm of art.

You amateurs of the present time regard photography too lightly simply because it has become so easy to make mere photographs, the mere making of photographs may serve as a diversion but its interest must soon pale. Why not try to cultivate an interest in the serious side of the work? It requires the expenditure of some little time and thought to become thoroughly conversant with the rules of composition but the results will repay you a hundred fold. Only make the beginning by investing a dollar or two in some good work on the principles of pictorial photography and study it. The fundamental rules of composition are not very numerous nor very hard to comprehend. Do not try to memorize the whole subject at one sitting—if you do you will find it pretty dry meal to chew, —but take up your book at leisure moments and read a chapter or two; try to grasp the principles, one at a time, as you go along. Learn the easiest first, the others you will grasp readily later on when your knowledge of the subject grows. Apply the principles that you have learned in your work and you will be surprised to see how much it is improved. When once you have made a start along this line you will not be very likely to drop it again for you will find your interest growing deeper as your knowledge of the subject increases.

While it is necessary, or at any rate, highly desirable that you should study the rules of composition in their cut-and-dried form, it is equally important that you become familiar with their application. To this end cultivate the habit of analyzing every picture you see, study the spacing and balance, notice the distribution of light and shade, and do not fail to give careful attention to the lines of the picture. If a picture pleases you, try to learn why it does; if it does not appeal to you, find out where the fault lies; in either case there is a reason which you should try to discover for yourself. Avail yourself of every opportunity to see and study good pictures; if you live in a city the art collections and exhibitions of pictorial photographs which are shown from time to time, afford an excellent opportunity to study good work, but even if you have no access to such collections, study good reproductions of master-pieces of painting which may be easily and cheaply obtained now-a-days, and likewise, study the reproductions of good work in pictorial photography which are published for your benefit in the photographic journals.

If you would do really serious work, the sooner you recognize the value of a fixed support for your camera which will enable you to focus, on the ground-glass, each and every subject that you intend to take, the quicker will be your progress in pictorial photography. The ground-glass gives you an opportunity to study out the composition of your picture which no finder, no matter how accurate (probably not one finder in a hundred used on hand cameras is accurate) will give you. For in the first place the image on the finder is so small that the novice does not detect even quite glaring errors in composition; in the second place the finder cannot give a true picture of the subject when the lens is either raised or lowered in operating the rising and falling front. In fact, this valuable accessory to the pictorialist is absolutely useless without a tripod. There is another potent reason why a tripod should always be used and that is the matter of exposure; comparatively few subjects will admit of so short an exposure as it is necessary to give when no support is used for the camera and this is especially true when a ray-screen is used. Right here I want to impress upon you the fact that in landscape work the ray-screen can seldom be dispensed with as not only the sky, but tone values in general, are rendered much more truly by its aid. Of course, it is true that some very excellent pictures were taken as snap-shots, but in these instances the makers were experts in composition. When you have arrived at the stage where you are able to grasp the composition of a view at a glance you may discard your tripod—if you wish,—but until then you will save many plates and make far more rapid and satisfactory progress by sticking to your tripod and focusing every view upon the ground glass.

Perhaps the most valuable aid of all to the student of pictorial photography is competent criticism of his work. Fortunate indeed, is the beginner who has a friend qualified to pass intelligent criticism upon his prints, those who are not so fortunate should avail themselves of the opportunity offered by the print-criticism departments of the photographic magazines for it is for their benefit that these departments are conducted. The earnest worker will find plenty more experienced ones who are willing and glad to help him along. Of course, to be of any value criticism must be frank and out-spoken, criticism that does not fearlessly point out the faults and short-comings of the work has entirely missed its purpose. That criticism is most valuable which is the least reserved, for it is by having all the errors, even the slightest, pointed out that you get the fullest benefit of criticism. Honest criticism will most likely give your pride a severe jolt, especially if you have been accustomed to hear only the praises of admiring friends—friends who may have been sincere enough in their laudatory remarks but who possessed absolutely no qualification to pass an intelligent judgment upon the subject. Don't harbor a grudge against the critic—he is your truest and most useful friend. Swallow your humbled pride and go to work, careful to avoid the same mistakes in the future. You will then soon realize the benefit of criticism and the satisfaction of turning out work of genuine merit will make you forget the pain occasioned by earlier criticism.

So you amateurs of the new school, if you would succeed, get busy. With apparatus much more perfect and with photographic manipulations greatly simplified, you should find the road to success in pictorial work much smoother to travel than did the worker of the old school. You too will have to work to succeed, but your task is light indeed compared with what it would have been ten or fifteen years ago.

FACTS ABOUT NON-ABRASION DEVELOPERS.

BY HARRY S. HOOD.

RECENTLY, in one of the photographic magazines, there appeared a formula which was given as the regular Velox formula for making glossy gaslight prints without abrasion marks. It recommended the addition of 10 grains of potassium iodide to every fluid ounce of developer. Upon trial, the formula was found to differ widely, in the results obtained, from the regular Velox N. A. developer. Paper printed the usual length of time, with the same light, negative and under exactly the same conditions that were used with the Velox N. A. developer, was found to develop very slowly and with a sickly yellow tinge. The final result, after fixing, showed an apparently much undertimed print with a rather rusty tone. Thereupon, a series of experiments was begun, with the object of finding a developer which gaye the same results chemically and pictorially as the ready mixed developers that cost fifty cents per four ounce bottle.

The desired end was soon reached and the formula that is given in this article, will be found to possess all the good qualities claimed for any developer now on the market. It entirely prevents abrasion marks, improves the tone of the finished print; but what is perhaps best of all, it furnishes the printer with unmistakable evidence of the complete fixation of the print. When the print comes up in the developer, it assumes a canary yellow color, which in no way affects the density of the print. The print is developed to exactly the same apparent density as is done when ordinary developer is used. The yellow color, not having any appreciable effect on the print's density, cannot confuse the operator and becomes of great importance when the print is placed in the fixing bath, as it completely disappears when the print is thoroughly fixed and not before, leaving it a beautiful blue black, the tone so much desired by all gaslight printers and so hard to get by amateurs. This color, then, removes all the elements of uncertainty from the operation of fixing and also gives warning when bath becomes exhausted, as in that case it will not disappear until the prints have been placed in a fresh solution.

It is often necessary, in commercial work, to get gaslight prints out in the shortest possible time consistent with proper fixing and washing. By using this developer, the print may be taken out of the hypo as soon as the fixing is completed, thus saving many valuable minutes and making it certain that any deterioration of the print later, will not be due to insufficient fixing, but to the washing. Even here the element of chance has been removed as the Velox people publish a formula for testing prints to find when they are thoroughly washed. The formula is:

Water (Distilled)	8 oz.
Potassium Permanganate	8 gr.
Caustic Soda	7 gr.

Drain the prints into a graduate and pour a few drops of the above solution in it. If the color of the solution remains pink the prints are done but if the water turns green they are not ready to come out of the water.

Now to return to our developer. It has been found that it is good for glossy and matte surface papers alike. In fact, after using this developer once, one is not at all inclined to return to the plain developer as the non-abrasion has undeniable advantages over any developer that does not make it possible for the worker to accurately decide when the print is thoroughly fixed.

However much the results differ from the ordinary Velox developer, the composition differs but very slightly. The formula is:

Water	10 oz.
Metol	7 gr.
Hydrochinone	30 gr.
Sodium Sulphite (dry)	110 gr.
Sodium Carbonate (dry)	200 gr.
Potassium Iodide	10 gr.
Potassium Bromide (10% sol.)	18 drops.

The chemicals should be dissolved in the order named. The developer should be used full strength. No additional bromide is necessary as the solution contains all that is required for a properly timed print. If the tones are not all that they should be, the fault is due to either under or over exposure. It is important that the developer and the fixing bath should both be kept as cold as possible during the summer months. The temperature of these solutions has a direct effect on the color of the prints. Warm developer gives brownish blacks while cold developer gives blue blacks.

Editorial Notes

The photographer, either amateur or professional certainly cannot complain of a lack of new things to keep up his interest. There is a constant stream of novelties coming into the market both in the way of processes and apparatus. Each season finds the producing of good pictures a simpler matter. There is a constant effort on the part of the manufacturers to do away with the drudgery of picture making, to simplify apparatus, and the processes of developing and printing. Without question the most important of the newer methods under consideration is that of tank development. Strictly speaking ,tank or time development is *not* a new method, but may be classed as such owing to the fact that the photographer is just beginning to realize its value. That is, the professional is, the amateur user of roll film has successfully made use of this method for a number of years with more than excellent results. With many amateurs the personal element in developing his exposures, and watching his picture grow into being under the rays of the red lamp, provides one of the greatest fascinations in picture making. On the other hand, every hour spent in the dark room by the professional, could be utilized to good advantage elsewhere in his bread and butter making, to say nothing of the health side of the question.

There is no necessity for us to go into the theory of tank development, this has been throughly exploited by both the dealer and the magazines, the photographer has found it good, and tank development is now the recognized method for the production of good negatives. In camera construction, there have been no radical departures from conventional models, unless we except the reflecting mirror type of camera, used in conjunction with the focal plane shutter. This type of instrument has been a lifesaver for the newspaper photographer, and it is now difficult to find an up-to-date news gathering organization, that is not equipped with one or more of these instruments. One new model of this type of camera is made exclusively for use with daylight loading roll film, making it an ideal instrument for all persons making extended trips away from a base of supply. For studio use, a prominent manufacturing concern showed at the national convention a decided innovation in studio camera construction. This instrument embodied all the good features of the reflecting mirror type in permitting the viewing of the object full size, and right way up, but in addition, the lens was concealed from view, while a dummy lens projecting from the camera provided a simple means of attracting the sitter's attention and permitted exposures being made by the "business" lens without his knowledge.

In photographic processes, Ozobrome, the invention of Thomas Manly of Great Britain, has the center of the stage at the present writing. In photography two things have been long desired. One, the making of pictures without having to depend upon some sort of light, second, a process for making enlarged pictures, other than in bromide without having to resort to the lengthy process of positive and new negative making. Both of these things have been accomplished by Ozobrome, and the entire process withal is so simple, and the results so exceedingly beautiful, that it is sure of immediate recognition by not only the up-to-date professional, but by the amateur salon exhibitor.

A brief outline of the whys and wherefores of this most interesting process may be of interest, and under the circumstances not out of place in this column. Ozobrome is a simplification or modification of the well known carbon process and permits the making of carbon prints and carbon enlargements without the direct action of light. Most of you are familiar with the carbon process, but for the benefit of those of you who are not, we will say that in the carbon process the picture is produced by immersing a sheet of paper coated with galatine impregnated with color, in a solution of bichromate of potash. The gelatine in this sheet of pigmented paper, called the tissue, when dried and subjected to the influence of light passed through a negative, becomes insoluble in proportion as it has been acted upon by the light, the action of the light changing the bichromate of potash into a chromic salt, which has the property of rendering the gelatine insoluble. The picture being produced by squeezing the pigmented paper on to another sheet of paper, and washing out the unacted upon gelatine by laving with hot water. The picture thus made is reversed as regards right to left, and must be transferred to still another support to bring this right. In Ozobrome, the change in the pigmented gelatine is not brought about by light, but by chemical action, and thus does away with the exposure of the tissue under the negative. In printing carbon, great care must be exercised as to just the right length of exposure, and this is naturally somewhat difficult owing to the constant changing of daylight. With Ozobrome, however, the action of light is done away with as above stated, as the base of the Ozobrome picture is a bromide or Velox print. The sheet of tissue sensitized with the patented Ozobrome sensitizing solution is squeezed into contact with the bromide or velox print the action of the sensitizing solution upon the bromide print producing the same effect upon the gelatine in the tissue, as sunlight passing through a negative in the carbon process. After remaining in contact with the bromide print for a definite time, twenty minutes is about right, the tissue and bromide print are immersed in warm water, the paper support of the tissue stripped off leaving a carbon image superimposed on the bromide print. This carbon image is made visible by laving with hot water to wash out the unacted upon gelatine, in the same manner as in the carbon process. A further simple process removes the underlying silver image, the final result being a pure carbon print. Or if you choose, you may transfer the carbon image from the bromide print to any other support, and the bromide print after being redeveloped may be used as a basis for the making of other Ozobrome prints. It will appear that Ozobrome does away with daylight for printing, the making of enlarged negatives as a bromide or Velox print of any size may be used, and also the bothersome double transfer of the carbon process. We understand that all the requisites for Ozobrome are to be manufactured in this country, and will be on sale very shortly.

Yes, we certainly have enough in the way of new things to interest us, not forgetting the new photographic Weekly, The *Bulletin of Photography*, edited by the popular Chambers and Bartlett of the *Camera*.

MONTHLY FOREIGN DIGEST.

TRANSLATED BY HENRY F. RAESS.

Cleaning Cover Glasses for Lantern Slides.

Cover glasses as received from the manufacturers or agents always need cleaning, sometimes they are covered with a kind of veil or fog which is not easily removed. The following method is said to give good results: Coffee grounds are placed in a dish and boiling water poured over, the plates are then put in one at a time and moved about with a wooden spoon. They are then removed, rinsed, dried and polished with a linen cloth. They will be found to be free from grease and perfectly clear. E. Grapin in *Photo Revue,* No. 3, Feb. '07, and *Photographisches Wochenblatt,* Vol. 33, No. 7, Feb., '07.

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Label Varnish.

A varnish which will withstand the action of most photographic chemicals is difficult to devise. The following is said to fill the requirements 6.0 gms. (90 grains) of gelatine is soaked in 30.c.c. (1 oz.) of water. After the gelatine has taken up all the water, it is gently heated until the liquid has the consistency of honey, the labels are now painted with this solution after first dipping the brush in strong formaline. In about half an hour the gelatine will have hardened, covering the label with a glass like cover so hard that it is almost impossible to scratch it even with a nail. This varnish is not attacked either by acids, alkalies or alcohol.—*Wiener Freie Photographen Zeitung,* Vol. 10, No. 4, April, '07.

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Constitution of the Negative Image.

It was always assumed that the image in a negative consisted of metalic silver, but the investigations of Dr. L. Cramer have shown that this can not be so on account of the behavior of the image towards certain compounds like persulphate (ammonium) which dissolves the denser portions first. Tests have shown that the image apparently is a combination of silver with silver bromide. Various solvents for silver haloids were used, such as ammonium hydroxide, sodium sulphite, potassium bromide, potassium cyanide. The negatives treated with the different solvents were then acted upon by persulphate (ammonium?), nitric acid, chromic acid, cupric chloride, potassium ferricyanide, ferric chloride, mercuric chloride and hydrogen peroxide. The kind of silver haloid solvent used determines the property of the residue in the gelatine towards the various agents. For a more detailed description, the reader is referred to *Eders Jahrbuch,* 1906, page 237.
—*Photographische Korrespondenz,* Mar., '07, p. 133. *Photographisches Wochenblatt,* Apr., '07, p. 154.

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A Protective Cover for Metal Vessels.

Zinc and sometimes iron is used for making trays and other vessels for photographic use. These metals, especially the zinc, are easily attacked by the various chemicals. To cover the metal with a coating which is elastic and will not chip off and at the same time remain unaffected by chemicals is no simple matter, but the following method is said to answer very well. Lamp black and linseed oil are mixed until they form a salve-like mixture, this is most easily accomplished in a porcelain mortar. The metal is painted with this and allowed to dry for at least 24 hours in a warm place, the best temperature is between 80 and 100 c.c. (176 to 212 deg F.) After drying, the utensil is coated several times with the best quality of asphalt varnish, allowing time for drying between coats. —*Photographische Chronik,* No. 14, Feb., '07.

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A New Toning and Fixing Bath.

In spite of the many good developing papers on the market, there are some photographers who still use printing-out papers because their patrons demand this kind of a print. That photographs toned in a combined bath fade sooner than those treated in the separate bath, is largely due to faulty composition of the solution. But another and more important reason is that the prints are not well washed before placing them in the combined bath and a "hypo" solution containing silver nitrate will cause a lot of trouble on account of it being easily decomposed. Silver haloids do not have this property. The following is a bath suggested by A. and L. Lumiere and Seyewetz for gelatine papers. It tones somewhat slower than other formulas.

English		Metric.
16 ozs.	Water	500 c.c.
4 ozs.	"Hypo"	125.0
75 grains	Commercial sodium bisulphite solution	5 c.c.
15 grains	Lead Acetate	1.0
1 oz.	Gold chloride 1% sol.	30 c.c.
5 drachms	Alum	20.0

The Tanning of Gelatine by Developers.

Many photographers have noticed that the image on pyro-developed negatives after fixing stands out in relief. This is often pointed out as a proof of the great power of pyro over other developers, and many other strange ideas are mentioned as to the cause. The authors investigated the matter and found that the cause was due to a product of oxidation. They experimented with twelve developers. Three different solutions were made of each, one in plain water, one with sodium carbonate, and a third with both sodium carbonate and sulphite, these solutions were again divided into two. Gelatine was added to each of the seventy-two solutions which were divided into two groups, one set was carefully protected from the air (oxygen) and the other was in contact with the air. It was found that if the air was prevented from coming in contact with the solutions, the gelatine remained soluble, the same also for the plain water solutions in contact with air. The solution containing no sulphite had the strongest tanning action. But solutions containing paramidophenol, paraphenylendiamine or glycin have no tanning property. The tests were made every day for one month. Pyro was the quickest to render the gelatin insoluble requiring half a day, whereas the others took from one to six days. To ascertain if this tanning was due to a product of oxidation and not to the developer, we made a solution of chinone, which is a product of the oxidation of hydroquinone and found that a cold saturated solution of 5% rendered the gelatine insoluble in a short time, even when protected from the air, whereas hydroquinone does not possess this property. If 20 c.c. (2/3 oz.) of 0.5% chinone solution is added to 100 c.c. (31/3 oz.) of a 10% gelatine solution, the latter will become insoluble even in boiling water. The hardening action is similar to chrome alum or formaline.

A. and L. Lumiere and A. Seyewetz. —*Der Amateur,* Vol. 4, No. 1, Jan., '07.

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Notes, News and Extracts

THE PICTURE REPRODUCED HEREWITH shows the painstaking efforts of one of our readers to obtain results under difficulties. We hope that others will from time to time tell us how they have adopted conveniences to their special work, or how they found simpler methods of manipulation. Such an exchange of experience will be helpful to everyone.

LYNN, MASS., Aug. 26th, '07.

I am sending you a picture of our "City Hall at Night" during Old Home Week. I am not sending it because of any artistic merit inherent in the picture but to show what results are possible under very unfavorable conditions. Pictures of the same subject had been on sale before I went after it and every one showed nothing whatever of the detail which goes so far to make a night picture of interest. They were invariably a black ground with the white dots representing lights, and an ugly white patch where the word "welcome" should show.

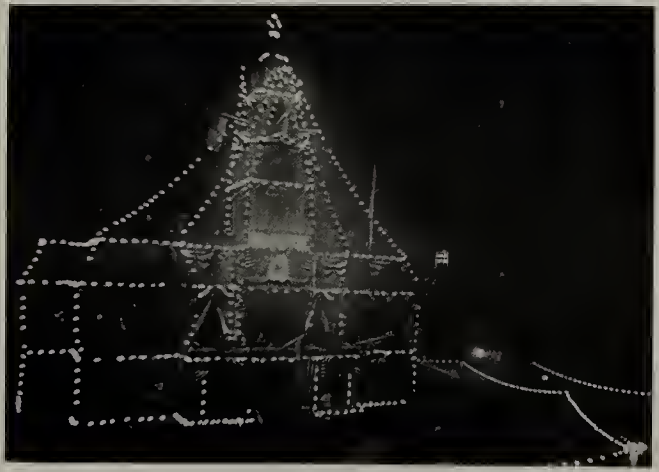
Well I made up my mind to try for something better and arming myself with a dozen Seeds C Ortho non-halation plates, got permission to go on the roof of a nearby building. I had a Century camera, 5 x 7, with a 6 inch Dallmeyer lens working at F6. I found it necessary to use an auxiliary lens over it because of being too close, so used a Nehrings Copying magnifier over the hood of the lens, which reduced the focus one-sixth, making it work at F5. I then made a series of exposures from one minute up to ten.

I should have mentioned that the subject is of brick with brown stone trimmings and was nearly covered with bunting and flags.

Development was with dilute Amidol, but only two negatives resulted—those that had the least exposure. The others were spoiled by the appearance of well defined rings about the arc lights about an inch and a half in diameter.

The two good negatives were hopelessly contrasty. The detail was all there, but it took three minutes to print the detail in the tower where the clock and word welcome is, and only 10 seconds for the flags, etc. I spoiled one negative trying to reduce contrast with the Chromic Acid and redevelopment formula; the plates being double coated reticulated badly.

After this I decided on making a positive and a new negative. After putting a dry plate in the printing frame in place of paper, I took off the red glass from the dark room light which burns ordinary wax candles. I then took a position about two feet from the light and gradually moved the frame up to within six inches of the candle and back again, keeping this up for thirty seconds. After developing the resulting positive and drying, I made a negative from that as snappy as possible. It looked good when done but the results when I came to print from it were disappointing. The picture had plenty of detail but it lacked brilliance; it was flat and looked unnatural.



About this time I was on the point of smashing the whole business, when I thought of intensifying the positive and making still another negative.

I therefore intensified with Uranium and went through the process again with only a little improvement. As a last resort before destroying the whole business after an expenditure of two dollars worth of material and a weeks work (evenings), I tried printing through the original negative with the positive placed in the frame first, the two placed back to back. It worked. Printing by daylight about ten feet from a north window, printing is done in eight to ten seconds and the detail shown speaks for itself. And the detail both in the highest lights as well as in the deepest shadows has that stereoscopic effect that a daylight picture has when taken against the light. When I found the scheme worked, I glued the edges of both negative and positive togetner carefully registered, made a proof, and although I was late, the market being flooded with inferior pictures, I took sixteen orders the next day in connection with my regular work. This reimbursed me for loss of material.

Yours truly,
Elliott S. Blakely.

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Photography on Silk.—According to *The Pall Mall Gazette* one of the novelties of the Paris Horticultural Show is photography on silk. When the President of the Republic visited the exhibition he was quite struck with the process. The inventor of this ingenious fabric is M.Rosenvaig, a Parisian photographer. He was impressed with the fact that the ordinary photograph, mounted on paper, shows a tendency to fade. How jaundiced, how ghost-like and unreal are the lineaments of the beloved face that we knew twenty years agone! But when the features are perpetuated on photo-silk—the French name is *la photo-soie*—there is no fading. Think how pleasurable to imprint the features of a dear friend, with the certitude that the impression will last, on some kindly familiar object of household use, such as a screen a cushion, a bon-bonnière, the back of an armchair, or in a hundred other ways too numerous to mention. Nor is one confined, of course, to a portrait; a picturesque bit of country, and scene, in fact, which is capable of being photographed is capable of being fixed on the silk. The process of fixing the impression is just as simple and direct as with ordinary sensitive paper. Great delicacy of tone and fineness of outline are obtained by the use of *la photo-soie*. The results, indeed, are remarkable, and have never been equalled by the employment of paper. This may be a novelty in France, but in England we have had, for over twenty years, similar material.

Lamp Carbons for Photography.—A German inventor, it is reported, is making special arc lamp carbons by treating ordinary carbons with a solution containing from one-half to one per cent. of a mixture of equal parts of nitrate of yttrium and nitrate of lead. No change is apparent, while the amount of light remains the same. The character of the light is changed, however, and it becomes especially rich in violet rays with considerably increased actinic power. Both yttrium and lead give spectra very rich in green and blue rays, and in ordinary work ultra-violet is of very little account.

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The Action of Green Light.—In a paper on the chemical actions of light, M. P. Villard describes in the *Journal de Physique* (vi., May) certain continuation phenomena. An interesting experiment is illustrated showing the effect of green light on photographic papers containing tartaric acid. A sheet of such paper was under exposed under a stereoscopic negative; one part was then submitted to green and another to violet light. On the green part an excellent image developed, while the violet rays completely fogged the other part. The use of green glass in intensifying prints thus finds a ready explanation, says *Nature*. Obviously, much must depend on the special sensitiveness of the salts.

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An Absolute Standard of Length.—It is generally known that the standard of length in the metric system is the metre, which was supposed to be one ten-millionth part of the distance from the pole to the equator, but later measurements proved that the original measurements of the quadrant were a little too small. This has been made a great point of by opponents of the metric system, and the standard metre is now actually an iridio-platinum bar kept in Paris. Exact copies are in London and the States, but assuming that all were destroyed, it would now be possible to reconstruct them, for, at a recent meeting of the International Union for Co-operation in Solar Research, the wave length of the red cadimum line has been adopted as a standard length, which, obviously, as long as light exists cannot be lost. Some recent determinations of the wave length of this ray, by interference methods, give it as 6438.4722 ten-millionths of a millimetre.

Trade Notes

A NEW LENS—THE ISOSTIGMAR which has been having a great sale abroad—3,000 having been sold in London in three months—is handled exclusively in America by Williams, Brown & Earle, Dept. S., 918 Chestnut street, Philadelphia. A fine chance for testing one of these lenses is afforded by the offer of the agents to send it on ten days trial on receipt of price or when ordered through your dealer. Messrs. Williams, Brown & Earle will also be glad to send price lists of Isostigmats, Enlarging Outfits and Photoscripts for Titling Negatives, free on request.

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THE FOLMER & SCHWING COMPANY of Rochester have done some remarkably effective advertising in exploiting their justly celebrated Graflex and Graphic cameras. Their new catalogue just from the printers, is an exceedingly good example of the higher type of printing and engraving, and tells in a most interesting way the good qualities of their line. The Graflex camera occupies a field peculiar to itself, and makes every camera user desire to possess one no matter how many other cameras he may own. The new Graflex catalogue contains a great fund of valuable information, as well as a full description of the most interesting products of the F. & S. Company. A copy will be sent on request.

* * *

BROMO-PRINT is a new developer in powder form prepared by C. L. Mitchell, M. D., of Phila, Pa. It is designed for use with all bromide and developing papers and for films and plates. Bromo-Print works in a clean, energetic, and economical manner and produces excellent results. It appears to work equally well in the production of negatives, showing practically no tendency to fog and the negatives are of good printing color.

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PERCIVAL CARMICHAEL'S CAMERA EXCHANGE, 30 Broomfield street, Boston, Mass., besides handling the best lenses and cameras of leading makes, do an extensive business in exchanging cameras. They also specialize in developing, printing and enlarging for amateurs. Better communicate with them if you are thinking of changing that old camera, the prices are most tempting.

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THE SECOND NEW YORK ARISTO SCHOOL OF PHOTOGRAPHY was held in the building of George Murphy, Inc., Sept. 10th, 11th and 12th. The school was well attended, the time being taken up every minute of it with demonstrations. The following program was carried out:

Tuesday, September 10th, 1907.—Ozobrome; Lighting and Posing; Negative Developing; Paper Demonstrations; Operating under Aristo Lamp; Bromide Enlargements; and Demonstrating Aristo Platino and Ozobrome.

Wednesday, September 11th, 1907.—Printing with Aristo Lamp; Talks of developing negatives and sittings with lamp; Ozobrome; Dark Room work; Talks; and Demonstrating; Doctoring Negatives; Printing Room devices; Lighting and Posing of figures; Bromide Demonstrations.

Thursday, September 12th, 1907.—Proofing Negatives Made; Retouching and Aristo Lamp Demonstrations; Developing Negatives; General Talks.

The school was managed by Messrs. Frank Haslett, F. L. Cornell, F. Becker, John J. Montgomery, Joseph Weaver, with assistance from time to time of others.

The Ozobrome process created great interest and the demonstrations were satisfactory in every way to all and without doubt the new process has had a great start.

Lighting and posing under the Aristo Lamp, negatives from sitters were practical and appreciated by all, as each morning proofs were exhibited from the negatives made from the preceding day and evening. Negative values were shown and explained and the attention fully demonstrated that the work of the Aristo Lamp shown would be fully equal to all representations and its use for studio work during dull days was one that photographers could not afford to do without in their equipment.

The paper demonstrations were carried out in every detail and questions were solicited and asked for and practical results clearly shown. This was managed by Mr. Frank Hazlett. Mr. Fred Becker gave demonstrations and talks each day on printing devices and practical methods. This was thoroughly appreciated.

Mr. Cornell's work under the Aristo Lamp attracted earnest attention and a large number of sittings were made of professional photographers who gladly appreciated negatives of themselves made by one of their profession. The lighting of the subjects under the lamp was fully covered and Mr. Cornell's work was appreciated by all.

The school was a success and it is expected to have another in a few months with added processes.

INTERNATIONAL PHOTOGRAPHIC EXHIBITION DRESDEN (SAXONY) 1909.—The official program, translated into several languages, is to be issued end of September. The first edition of 10,000 will be sent and stand to the disposal of all clubs and persons connected or interested in photographic art and industry. For the first this concludes the preparatory work of organizing this great enterprise. The numerous committees will now begin to organize the details of the four principal groups of the exhibition and their various subdivisions. As renowned representatives of the trade from all parts of the world have willingly offered their assistance as contributors and commissioners a full success of the exhibition seems to be assured. The exhibition is planned on an hitherto unequalled scale. It is to show for the very first time every possibility of application of modern photography in art, science, technic, in short the manysidedness of the whole photographic industry. Efficiently supported by the government, the county-council and her numerous artists, Dresden herewith undertakes quite a novel task, which is to be hoped will bring her the same success, as her former exhibitions of international fame.